

Application No. 10/698,707  
Amendment dated March 1, 2006  
Reply to Office Action of December 1, 2005

## **REMARKS**

### **Status Of Application**

Claims 1-17 were pending in the application; the status of the claims is as follows:

Claims 1, 2, and 14-17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,600,509 B1 to Radford et al. ("Radford").

Claims 3-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The acknowledgement, in the Office Action, of a claim for foreign priority under 35 U.S.C. § 119(a)-(d), and that the certified copy of the priority document has been received, is noted with appreciation.

The indication, in the Office Action, that the Examiner has no objections to the drawings filed on October 31, 2003, is noted with appreciation.

### **Claim Amendments**

Claims 1, 2, 16, and 17 have been amended. The amendments to claims 1, 2, 16, and 17 are supported by the specification in at least paragraphs [0095] - [0113], Figure 12, and paragraphs [0050]-[0051]. These changes do not introduce any new matter.

### **New Claims**

New Claims 18-25 have been added. Claims 18-21 are supported by the specification in at least paragraphs [0095] - [0113], Figure 12, and paragraphs [0050]-[0051]. They do not introduce new matter.

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Claims 3, 4, 7, and 8 have been rewritten in independent form as claims 22-25, including all of the limitations of the base claim and any intervening claims, as suggested by the Examiner in order to obtain their allowance.

Accordingly, it is respectfully requested that these claims be allowed.

**35 U.S.C. § 103(a) Rejection**

The rejection of claims 1, 2, and 14-17 under 35 U.S.C. § 103(a), as being unpatentable over Radford, is respectfully traversed based on at least the following.

In order to reject claims under 35 U.S.C. § 103(a), MPEP § 706.02(j) states:

three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. (citations omitted).

In this case, amended claim 1 requires "a light emitter for irradiating a line which extends along a width direction of said path with a slit ray." The Examiner has acknowledged that Radford does not include a slit ray. Although the Examiner claims that one of ordinary skill in the art would have thought it obvious to use slit rays, the Examiner has not shown a suggestion in Radford or in the ordinary skill to do so beyond an assertion that it would aid in accuracy of monitoring zones. The applicant also notes that Radford presented many embodiments, including examples varying the light source, yet none of them included slit rays. This suggests that Radford did not consider it obvious to combine

slit rays with the invention disclosed therein. Motivation to combine slit rays is not found in the system disclosed in Radford.

Radford further discloses that in its invention “a dot exhibits a two-dimensional intensity profile which increases the reliability of its detection” in column 3, lines 42-43. Thus Radford does not have “a line generator for generating one-dimensional line data ...[and] a detection part for detecting said passing objects on the basis of said one-dimensional line data” as required by claim 1.

Radford also discloses “[o]bjects passing through the light sheet will disturb the light regardless of their position within the sheet” at column 3, lines 26-27. Radford further states “[t]he data processing system includes an image processor arranged to records, process, and digitise the deflection pattern, a counting unit arranged to count the number of such deflection patterns occurring in each light sheet...” at column 4, lines 16-19. There, and in other places, Radford emphasizes measuring the deflection pattern. Radford does not disclose “generating one-dimensional line data indicative of an irradiation state of said slit ray on said line” as required in amended claim 1.

“To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.” (MPEP § 706.02(j) citing *Ex parte Clapp*, 227 U.S.P.Q. (BNA) 972, 973 (Bd. Pat. App. & Inter. 1985)). The Examiner fails to present a “convincing line of reasoning” as to why the artisan would have thought it obvious to combine ordinary skill in the art with Radford in such a manner as to encompass claim 1. Since Radford does not explicitly disclose all elements found in claim 1 or suggest their combination, a *prima facie* case of obviousness has not been made and the rejection of claim 1 is respectfully traversed.

Amended claim 2 requires “a light emitter for irradiating a plurality of lines which extend along a width direction of said path and provided at intervals, respectively, with a plurality of slit rays.” Radford does not disclose a slit ray, as the Examiner acknowledges, as required in amended claim 2. As discussed above, Radford does not disclose “a line generator for generating a plurality of pieces of one-dimensional line data ...[and] a detection part for detecting said passing objects on the basis of said plurality of pieces of one-dimensional line data” as required by amended claim 2. Also, as discussed above, Radford does not disclose “generating a plurality of pieces of one-dimensional line data each indicative of an irradiation state of said slit rays on said plurality of lines” as required in amended claim 2. Since Radford does not explicitly disclose all elements found in claim 2 or suggest their combination, a *prima facie* case of obviousness has not been made and the rejection of claim 2 is respectfully traversed.

Claims 14 and 15 depends from independent claims 1 and 2. For the reasons discussed above, a *prima facie* case of obviousness has not been made against claims 1 and 2, and the rejection of claims 14 and 15 are traversed. Therefore, a *prima facie* case of obviousness has not been made with regard to claims 14 and 15, and their rejection is respectfully traversed.

Amended claim 16 requires “irradiating said line with a slit ray.” Radford does not disclose a slit ray, as the Examiner acknowledges, as required in amended claim 16. As discussed above, Radford does not disclose “generating one-dimensional line data indicative of an irradiation state of said slit ray...[and] detecting said passing objects on the basis of said one-dimensional line data” as required by amended claim 16. Also, as discussed above, Radford does not disclose “detecting passing objects on the basis of said one-dimensional line data” as required in amended claim 16. Therefore, a *prima facie* case of obviousness has not been made with regard to amended claim 16, and this rejection is respectfully traversed.

plurality of pieces of one-dimensional line data each indicative of an irradiation state of each of said slit rays...[and] detecting said passing objects on the basis of said plurality of pieces of one-dimensional line data” as required by amended claim 17. Therefore, a *prima facie* case of obviousness has not been made with regard to amended claim 17, and this rejection is respectfully traversed.

Since Radford and ordinary skill in this art do not teach or suggest all the claim limitations or show a motivation to combine elements of the present invention, the criteria for a *prima facie* obviousness rejection under 35 U.S.C. § 103(a) has not been met. The rejections of claims 1, 2, and 14-17 are respectfully traversed.

With respect to claims 16 and 17, a 35 U.S.C. § 103(a) rejection based on an inherent disclosure in the prior art “the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art.” MPEP § 2112 (citation omitted). No basis is given for the Examiner’s assertion that “the method of counting the number of passing objects is inherent to the system claimed above.” Only once the examiner presents evidence or reasoning tending to show inherency does the burden shift to the applicant to show unobvious differences. The Examiner has failed to show evidence or reasoning of inherency in this case; therefore, a case of *prima facie* obviousness through inherency has not been made.

Since the Examiner has failed to show evidence or reasoning for the claim of inherency, a *prima facie* case of inherent obviousness has not been made and the applicant is under no burden to rebut this claim. However, as discussed above, Radford does not provide for the use of one-dimensional line data. Further, the use of one-dimensional data is not obvious or inherent from the use of two-dimensional data. Claims 16 requires “generating one-dimensional line data” and “detecting said passing objects on the basis of said one-dimensional line data.” Claim 17 requires “generating a plurality of pieces of one-dimensional line data” and “detecting said passing objects on the basis of said

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plurality of pieces of one-dimensional line data.” Thus the applicant’s invention is sufficiently distinct and non-obvious to merit allowance of claims 16 and 17. The applicant respectfully requests that the objection to claims 16 and 17 as inherent in Radford be withdrawn.

New claims 18-21 are also not obvious in light of Radford and ordinary skill in the art. Specifically, Radford does not disclose “a slit ray,” “a line data generator for generating one-dimensional line data indicative of an irradiation state,” or “counting said number of passing objects on the basis of said one-dimensional line data” as discussed above.

Further, Radford states “[t]he system may be arranged to monitor the profile of bodies on a bounding surface intersecting a projected light sheet. In the presence of a body, the surface of the body forms the obstructing surface and the image line defines a deflection pattern characteristic of the profile of the body.” Thus, Radford is measuring deflection patterns. Radford does not disclose “slit ray images [that] break in a position in which the slit ray is interrupted by the passing objects” as required by claims 18-21.

Since Radford and ordinary skill in this art do not teach or suggest all the claim limitations or show a motivation to combine elements of the present invention, the criteria for a *prima facie* obviousness rejection under 35 U.S.C. § 103(a) has not been met. Therefore it is believed that claims 18-21 are in a condition to be allowed.

As discussed above, claims 22-25 consist of claims 3, 4, 7, and 8 rewritten in independent form, including all of the limitations of the base claim and any intervening claims, as suggested by the Examiner in order to obtain their allowance. Since the examiner has previously noted their readiness for allowance if these suggested steps were taken it is believed that these claims are now in a condition for allowance.

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Accordingly, it is respectfully requested that the rejection of claims 1, 2, and 14-17 under 35 U.S.C. § 103(a) as being unpatentable over Radford, be reconsidered and withdrawn. These claims should now be allowed.

In view of these arguments and the amendments to the independent claims from which the objected to claims depend, it is respectfully requested that the objection to claims 3-13 be withdrawn and these claims be allowed.

New claims 21-25 do not add new matter and are sufficiently non-obvious in view of Radford. These claims should be allowed.

### **CONCLUSION**

Wherefore, in view of the foregoing amendments and remarks, this application is considered to be in condition for allowance, and an early reconsideration and a Notice of Allowance are earnestly solicited.

This Amendment increases the number of independent claims by 8 from 4 to 12 (3 claims previously paid for) and increases the total number of claims by 8 from 17 to 25 (20 claims previously paid for), but does not present any multiple dependency claims. Accordingly, a Response Transmittal and Fee Authorization form authorizing the amount of \$2,050.00 to be charged to Sidley Austin LLP Deposit Account No. 18-1260 is enclosed herewith in duplicate. However, if the Response Transmittal and Fee Authorization form is missing, insufficient, or otherwise inadequate, or if a fee, other than the issue fee, is required during the pendency of this application, please charge such fee to Sidley Austin LLP Deposit Account No. 18-1260.

If an extension of time is required to enable this document to be timely filed and there is no separate Petition for Extension of Time filed herewith, this document is to be construed as also constituting a Petition for Extension of Time Under 37 C.F.R. § 1.136(a) for a period of time sufficient to enable this document to be timely filed.

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Any other fee required for such Petition for Extension of Time and any other fee required by this document pursuant to 37 C.F.R. §§ 1.16 and 1.17, other than the issue fee, and not submitted herewith should be charged to Sidley Austin LLP Deposit Account No. 18-1260. Any refund should be credited to the same account.

Respectfully submitted,

By: Nicole D. Sims

Nicole D. Sims  
Registration No. 56,119  
Attorney for Applicants

TNT/NS/llb:jjk  
SIDLEY AUSTIN LLP  
717 N. Harwood, Suite 3400  
Dallas, Texas 75201  
Direct: (214) 981-3476  
Main: (214) 981-3300  
Facsimile: (214) 981-3400  
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